

# Claims

- [c1] 1.A continuous vacuum carburizing furnace comprising:  
a heating chamber for heating a workpiece under a atmospheric pressure; a first conditioning chamber in which the pressure is reduced from the atmospheric pressure after the receipt of the workpiece from the heating chamber; a carburizing/diffusing chamber receiving plural workpieces from the first conditioning chamber and conducting plural cycles of carburizing and diffusing processes under the reduced pressure; a second conditioning chamber in which the reduced pressure is returned to the atmospheric pressure after the receipt of the workpiece treated in the carburizing/diffusing chamber; and a cooling chamber for cooling the workpiece introduced from the second conditioning chamber under the atmospheric pressure, the furnace further comprising a door member disposed between a respective adjoining pair of the above chambers, the door member opened/closed only when the workpiece is transported from one chamber to another.
- [c2] 2.The continuous vacuum carburizing furnace as claimed in Claim 1, wherein said workpiece is subjected to car-

burization and diffusion in said first conditioning chamber under the reduced pressure.

[c3] 3.The continuous vacuum carburizing furnace as claimed in Claim 1, wherein said workpiece is subjected to carburization and diffusion in said second conditioning chamber under the reduced pressure.

[c4] 4.The continuous vacuum carburizing furnace as claimed in Claim 1, wherein said workpiece is of a steel material.